



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2022-1403; Project Identifier MCAI-2022-00122-T; Amendment 39-22408; AD 2023-07-06]**

**RIN 2120-AA64**

### **Airworthiness Directives; De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by Bombardier, Inc.) Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain De Havilland Aircraft of Canada Limited Model DHC-8-401 and -402 airplanes. This AD was prompted by reports of corrosion on the horizontal stabilizer lower center skin panel, including a finding of corrosion where the skin thickness had been substantially reduced, which affected design margins. This AD requires inspecting the horizontal stabilizer lower center skin panel for corrosion, and reworking, repairing, or replacing the lower center skin panel if necessary. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:**

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1403; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

*Material Incorporated by Reference:*

- For service information identified in this final rule, contact De Havilland Aircraft of Canada Limited, Dash 8 Series Customer Response Centre, 5800 Explorer Drive, Mississauga, Ontario, L4W 5K9, Canada; telephone 855-310-1013 or 647-277-5820; email [thd@dehavilland.com](mailto:thd@dehavilland.com); website [dehavilland.com](https://www.dehavilland.com).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1403.

**FOR FURTHER INFORMATION CONTACT:** Yaser Osman, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

**SUPPLEMENTARY INFORMATION:****Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain De Havilland Aircraft of Canada Limited Model DHC-8-401 and -402 airplanes. The NPRM published in the *Federal Register* on

November 4, 2022 (87 FR 66619). The NPRM was prompted by AD CF-2022-02, dated January 28, 2022, issued by Transport Canada, which is the aviation authority for Canada (referred to after this as the MCAI). The MCAI states that there have been reports of corrosion on the horizontal stabilizer lower center skin panel, including a finding of corrosion where the skin thickness had been substantially reduced, affecting design margins. The root cause was found to be inconsistent chemical processing of the lower center skin panel, with missing anodizing layer and primer on some areas of the skin panel surface. A substantial reduction of skin panel thickness due to the effects of corrosion will compromise the structural integrity of the horizontal stabilizer.

In the NPRM, the FAA proposed to require inspecting the horizontal stabilizer lower center skin panel for corrosion, and reworking, repairing, or replacing the lower center skin panel if necessary.

The FAA is issuing this AD to address possible reduction of skin panel thickness due to the effects of corrosion, which could compromise the structural integrity of the horizontal stabilizer. You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1403.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received comments from Air Line Pilots Association, International (ALPA) who supported the NPRM without change.

The FAA received additional comments from Horizon Air. The following presents the comment received on the NPRM and the FAA's response to the comment.

### **Request to Limit Certain Requirements**

Horizon Air requested that paragraph (g)(3)(i) of the proposed AD require only Section 3.B. (Procedure) of the Accomplishment Instructions of De Havilland Aircraft of Canada Limited Service Bulletin 84-55-11, dated February 16, 2021. Horizon Air stated

that requiring the job set-up and close out sections restricts an operator's ability to perform other maintenance in conjunction with the incorporation of the service information. Horizon Air added that the job set-up and close out sections do not directly correct the unsafe conditions.

The FAA agrees with the request to limit the requirements to simplify the procedure and allow the performance of other maintenance in conjunction with the required actions of this AD. Paragraph (g)(3)(i) of this AD has been changed to limit the requirements as requested.

### **Conclusion**

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data, considered the comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on this product. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

### **Related Service Information under 1 CFR Part 51**

De Havilland Aircraft of Canada Limited has issued Service Bulletin 84-55-05, Revision C, dated August 19, 2021. This service information describes procedures for inspecting the horizontal stabilizer lower center skin panel for corrosion, and, depending on the level of corrosion, reworking or repairing the horizontal stabilizer lower center skin panel.

De Havilland Aircraft of Canada Limited has also issued Service Bulletin 84-55-11, dated February 16, 2021. This service information describes procedures for replacing the horizontal stabilizer lower center skin panel.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

### **Costs of Compliance**

The FAA estimates that this AD affects 56 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

#### **Estimated costs for required actions**

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
108 work-hours X \$85 per hour = \$9,180	\$0	\$9,180	\$514,080

The FAA estimates the following costs to do any necessary on-condition replacements that would be required based on the results of any required actions. The FAA has no way of determining the number of aircraft that might need this on-condition replacement:

#### **Estimated costs of on-condition actions**

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
108 work-hours X \$85 per hour = \$9,180	\$21,449	\$30,629

The FAA has received no definitive data on which to base the cost estimates for the on-condition repairs or rework specified in this AD.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2023-07-06 De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by Bombardier, Inc.):** Amendment 39-22408; Docket No. FAA-2022-1403; Project Identifier MCAI-2022-00122-T.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to De Havilland Aircraft of Canada Limited Model DHC-8-401 and -402 airplanes, certificated in any category, having serial numbers 4001 and 4003 through 4549 inclusive.

#### **(d) Subject**

Air Transport Association (ATA) of America Code 55, Stabilizers.

**(e) Unsafe Condition**

This AD was prompted by reports of corrosion on the horizontal stabilizer lower center skin panel, including a finding of corrosion where the skin thickness had been substantially reduced, which affected design margins. The FAA is issuing this AD to address possible substantial reduction of skin panel thickness due to the effects of corrosion, which could compromise the structural integrity of the horizontal stabilizer.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspection and Corrective Actions**

(1) Within 8,000 flight hours or 48 months, whichever occurs first, after the effective date of this AD: Inspect the horizontal stabilizer lower center skin panel for corrosion in accordance with Section 3.B. Part A of the Accomplishment Instructions of De Havilland Aircraft of Canada Limited Service Bulletin 84-55-05 Revision C, dated August 19, 2021. If any corrosion is found, before further flight, do the applicable actions specified in paragraph (g)(2) or (3) of this AD.

(2) If the corrosion is within the allowable repair limits as specified in Figure 5 Detail C of De Havilland Aircraft of Canada Limited Service Bulletin 84-55-05 Revision C, dated August 19, 2021, perform the corrosion rework in accordance with Section 3.B. Part B of the Accomplishment Instructions of De Havilland Aircraft of Canada Limited Service Bulletin 84-55-05 Revision C, dated August 19, 2021.

(3) If the corrosion is beyond the allowable repair limits as specified in Figure 5 Detail C of De Havilland Aircraft of Canada Limited Service Bulletin 84-55-05 Revision C, dated August 19, 2021, accomplish the action specified in paragraph (g)(3)(i) or (ii) of this AD.



(i) Replace the existing horizontal stabilizer lower center skin panel in accordance with Section 3.B. Procedure of the Accomplishment Instructions of De Havilland Aircraft of Canada Limited Service Bulletin 84-55-11, dated February 16, 2021.

(ii) Obtain and follow repair instructions using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada; or De Havilland Aircraft of Canada Limited's Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(h) Credit for Previous Actions**

(1) This paragraph provides credit for actions required by paragraphs (g)(1) and (2) of this AD, if those actions were performed before the effective date of this AD using De Havilland Aircraft of Canada Limited Service Bulletin 84-55-05, Initial Issue, dated January 12, 2016; De Havilland Aircraft of Canada Limited Service Bulletin 84-55-05, Revision A, dated June 3, 2016; or De Havilland Aircraft of Canada Limited Service Bulletin 84-55-05, Revision B, dated February 26, 2021.

(2) This paragraph provides credit for the actions required by paragraph (g)(2) or (3) of this AD, if those actions were performed before the effective date of this AD using any of the repair drawings (RDs) specified in figure 1 to paragraph (h) of this AD.

**Figure 1 to paragraph (h) – Repair Drawings**

<b>RD Number</b>	<b>Issue</b>	<b>Date</b>
8/4-55-1061	3	October 7, 2014
8/4-55-1064	2	October 27, 2014
8/4-55-1107	3	March 11, 2016
8/4-55-1110	2	March 11, 2016
8/4-55-1124	3	April 13, 2021
8/4-55-1138	1	June 3, 2015
8/4-55-1144	2	May 17, 2016
8/4-55-1166	2	June 29, 2016
8/4-55-1178	2	June 29, 2016
8/4-55-1200	2	June 29, 2016

8/4-55-1219	2	June 29, 2016
8/4-55-1363	1	October 28, 2016
8/4-55-1450	1	March 2, 2017
8/4-55-1484	1	April 11, 2017
8/4-55-1705	2	September 20, 2018
8/4-55-1837	1	October 4, 2019
8/4-55-1876	1	January 17, 2020
8/4-55-1967	1	November 15, 2020
8/4-55-1978	1	January 14, 2021
8/4-55-2009	1	June 10, 2021

**(i) Additional AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada; or De Havilland Aircraft of Canada Limited's Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(j) Additional Information**

(1) Refer to Transport Canada AD CF-2022-02, dated January 28, 2022, for related information. This Transport Canada AD may be found in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1403.

(2) For more information about this AD, contact Yaser Osman, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (k)(3) and (4) of this AD.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) De Havilland Aircraft of Canada Limited Service Bulletin 84-55-05, Revision C, dated August 19, 2021.

(ii) De Havilland Aircraft of Canada Limited Service Bulletin 84-55-11, dated February 16, 2021.

(3) For service information identified in this AD, contact De Havilland Aircraft of Canada Limited, Dash 8 Series Customer Response Centre, 5800 Explorer Drive, Mississauga, Ontario, L4W 5K9, Canada; telephone 855-310-1013 or 647-277-5820; email [thd@dehavilland.com](mailto:thd@dehavilland.com); website [dehavilland.com](http://dehavilland.com).

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on April 8, 2023.

Christina Underwood, Acting Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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